

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE	PAGE OF PAGES	
2. AMENDMENT/MODIFICATION NO. 0006		3. EFFECTIVE DATE 06-Nov-2003	4. REQUISITION/PURCHASE REQ. NO. W68MD9-2183-1410		5. PROJECT NO.(If applicable)	
6. ISSUED BY USA ENGINEER DISTRICT, SEATTLE ATTN: CENWS-CT 4735 EAST MARGINAL WAY SOUTH SEATTLE WA 98134-2329		CODE W912DW	7. ADMINISTERED BY (If other than item 6) See Item 6		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X	9A. AMENDMENT OF SOLICITATION NO. DACW67-03-R-0001	
				X	9B. DATED (SEE ITEM 11) 19-Sep-2003	
					10A. MOD. OF CONTRACT/ORDER NO.	
					10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE		11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS		
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.						
12. ACCOUNTING AND APPROPRIATION DATA (If required)						
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.						
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.						
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).						
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:						
D. OTHER (Specify type of modification and authority)						
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.						
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) FISH PASSAGE FACILITY COFFERDAM AND EXCAVATION, HOWARD HANSON DAM, KING COUNTY, WASHINGTON The purpose of this amendment (R0006) is to incorporate the following:						
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.						
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)		
				TEL: _____ EMAIL: _____		
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)		15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)		16C. DATE SIGNED 07-Nov-2003	

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

PROJECT: **DACW67-03-R-0001, Cofferdam and Excavation, Howard Hanson Dam, WA**

AMENDMENT NO. SIX

A. This amendment provides for the following changes:

- (1) Revisions to Bid Schedule to clarify Item 0019;
- (2) Corresponding revision to Section 01025, Measurement and Payment;
- (3) Miscellaneous revisions throughout Section 05616, Stoplogs and lifting Beam.
- (4) Revisions to SF Form 1442 to correct date.

(5) Section 00110 Proposal submission and Evaluation is revised in part to correct due date on Customer Satisfaction Survey form. NOTE: Revised copy of Customer Satisfaction Survey is included however offeror is not required to resubmit revised copies if offerors surveys have already been submitted.

B. The attached revised pages supersede and replace the corresponding pages. The attached revised specification sections supersede and replace the corresponding specification sections. Specification changes are generally identified, for convenience, by strikeout for deletions, and underlining of text for additions. All portions of the revised or new pages shall apply whether or not changes have been indicated.

C. The proposal submittal time and date 18 November 2003, 2:00 p.m. local time **is not** extended.

Encl

Bid Schedule (revised)
Section 01025 (revised)
Section 05616 (revised)
SF 1442 (revised)
Customer Satisfaction Survey (revised)

SOLICITATION, OFFER, AND AWARD <i>(Construction, Alteration, or Repair)</i>	1. SOLICITATION NUMBER DACW67-03-R-0001	2. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)	3. DATE ISSUED Sept 19, 2003	PAGE OF PAGES 1
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IMPORTANT - The "offer" section on the reverse must be fully completed by the offeror.

4. CONTRACT NUMBER	5. REQUISITION/PURCHASE REQUEST NUMBER W68MD9-2183-1410	6. PROJECT NUMBER
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7. ISSUED BY Seattle District, Corps of Engineers ATTN: CENWS-CT-CB-CU PO Box 3755 Seattle, WA 98124-3755	CODE W68MD9	8. ADDRESS OFFER TO Seattle District, Corps of Engineers PO Box 3755 ATTN: CENWS-CT-CB-CU Seattle, WA 98124-3755 HAND CARRY: Preston Conference Room 4735 East Marginal Way South Seattle, WA 98134-2385 BID OPENING ROOM: Preston Conference Room
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9. FOR INFORMATION CALL	A. NAME See Information Page inside Front Cover	B. TELEPHONE NUMBER (Include area code) (NO COLLECT CALLS) See Information Page inside Front Cover
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SOLICITATION

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS (Title, identifying number, date):

Furnish all labor, materials and equipment and perform all work for Fish Passage Facility Cofferdam and Excavation, Howard Hanson Dam, King County, Washington in accordance with the attached Contract Clauses, Special Clauses, Technical Specifications and Drawings.

NOTE: Award will be made pursuant to the Small Business Competitive Demonstration Program.

11. The Contractor shall begin performance within 10 calendar days and complete it _____ calendar days after award, notice to proceed. This performance period is mandatory, negotiable. (See * Paragraph SC-1, 00800 .)

12A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE PAYMENT BONDS? <i>(If "YES," indicate within how many calendar days after award in Item 12B.)</i> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	12B. CALENDAR DAYS 10
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13. ADDITIONAL SOLICITATION REQUIREMENTS:

A. Sealed offers in original and _____ copies to perform the work required are due at the place specified in Item 8 2:00 p.m. (hour) local time November 18, 2003 (date). If this is a sealed bid solicitation, offers will be publicly opened at that time. Sealed containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

B. An offer guarantee is, is not required.

C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by

D. Offers providing less than 90 calendar days for Government acceptance after the date offers are due will not be considered and be rejected.

OFFER (Must be fully completed by offeror)

14. NAME AND ADDRESS OF OFFEROR (Include ZIP Code) Tax ID No: _____ DUNS No: _____ eMail: _____ CODE _____ FACILITY CODE _____	15. TELEPHONE NUMBER (Include area code) FAX: _____ 16. REMITTANCE ADDRESS (Include only if different than Item 14)
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17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within _____ calendar days after the date offers are due. (Insert any number equal or greater than the minimum requirement stated in 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.)

AMOUNTS See page 00010-5 thru 00010-6

18. The offeror agrees to furnish any required performance and payment bonds.

19. ACKNOWLEDGEMENT OF AMENDMENTS
 (The offeror acknowledges receipt of amendments to the solicitation - give number and date of each)

AMENDMENT NO.									
DATE									

20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)	20B. SIGNATURE	20C. OFFER DATE
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AWARD (To be completed by Government)

21. ITEMS ACCEPTED

22. AMOUNT	23. ACCOUNTING AND APPROPRIATION DATA
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24. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)	ITEM 26	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO <input type="checkbox"/> 10 U.S.C. 2304(c) () <input type="checkbox"/> 41 U.S.C. 253(c) ()
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26. ADMINISTERED BY CODE United States Army Corps of Engineers Seattle District Northwest Area Office PO Box 92146 Tillicum, WA 98492-0146	27. PAYMENT WILL BE MADE BY US Army Corps of Engineers Finance Center CEFC-AO-P 5722 Integrity Drive Millington, TN 38054-5005
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CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

<input type="checkbox"/> 28. NEGOTIATED AGREEMENT (Contractor is required to sign this document and return _____ copies to the issuing office.) Contractor agrees to furnish and deliver all items or perform all work requirements identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract.	<input type="checkbox"/> 29. AWARD. (Contractor is not required to sign this document.) Your offer on this solicitation is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.
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30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN (Type or print)	31A. NAME OF CONTRACTING OFFICER (Type or print) CONTRACTING OFFICER	
30B. SIGNATURE	30C. DATE	31B. UNITED STATES OF AMERICA BY _____
		31C. AWARD DATE

SCHEDULE

<u>Item No.</u>	<u>Description of Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
0001	All Work for Fish Passage Facility Cofferdam and Excavation, Except for Items 0002 Through 0039	1	JOB	L.S.	\$ _____
0002	Mobilization And Demobilization	1	JOB	L.S.	\$ _____
0003	All Work for Reservoir Excavation & Debris Removal From Trash Racks				
0003AA	First 600 Cubic Yards	600	CY	\$ _____	\$ _____
0003AB	All Over 600 Cubic Yards	400	CY	\$ _____	\$ _____
0004	All Work for Multi-Point Borehole Extensometers	1	JOB	L.S.	\$ _____
0005	All Work for Piezometers	1	JOB	L.S.	\$ _____
0006	All Work for Inclinometers	1	JOB	L.S.	\$ _____
0007	All Work for Load Cells	1	JOB	L.S.	\$ _____
0008	All Work for Passive Relief Wells	2,260	LF	\$ _____	\$ _____
0009	All Work for Dewatering Wells	3,000	LF	\$ _____	\$ _____
0010	All Overburden Drilling for Grout Curtain Holes, (1, 2 & 4 Stage Holes)				
0010AA	First 10 Linear Feet	10	LF	\$ _____	\$ _____
0010AB	Over 10 Linear Feet	400	LF	\$ _____	\$ _____
0011	All Rock Drilling for Grout Holes (1,2 & 4 Stage Holes)				
0011AA	First 5,000 Linear Feet	5,000	LF	\$ _____	\$ _____
0011AB	All Over 5,000 Linear Feet	5,600	LF	\$ _____	\$ _____

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 Cofferdam and Excavation, Howard Hanson Dam, WA

<u>Item No.</u>	<u>Description of Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
0012	All Work for Redrilling Grout Curtain Holes (2 Stage Grout Curtains only)				
0012AA	First 600 Linear Foot	600	LF	\$_____	\$_____
0012AB	All Over 600 Linear Foot	1,000	LF	\$_____	\$_____
0013	All Hookups To Grout Holes used in Placement of Cement Grout Curtains				
0013AA	First 150 Each	150	EACH	\$_____	\$_____
0013AB	All Over 150 Each	160	EACH	\$_____	\$_____
0014	All Portland Cement used in Grout Curtains				
0014AA	First 1,450 94-lb Bags	1,450	BAGS	\$_____	\$_____
0014AB	All Over 1,450 94-lb Bags	500	BAGS	\$_____	\$_____
0015	All Bentonite used in Grout Curtains				
0015AA	First 10 94-lb Bags	10	BAGS	\$_____	\$_____
0015AB	All Over 75 94-lb Bags	75	BAGS	\$_____	\$_____
0016	All HRWR Water Reducing Admixture (Anti-Washout Admixture) used in Grout Curtains				
0016AA	First 50 Gallons	50	GAL	\$_____	\$_____
0016AB	Over 50 Gallons	100	GAL	\$_____	\$_____
0017	All New Intake Tower Addition Tremie Concrete Below Elevation 1085				
0017AA	First 200 Cubic Yards	200	CY	\$_____	\$_____
0017AB	All Over 200 Cubic Yards	100	CY	\$_____	\$_____
0018	All 37 Each Vertical 1-3/4" Diameter Bars for New Intake Tower Addition (Plate S8.3)				
0018AA	First 740 Linear Foot	740	LF	\$_____	\$_____
0018AB	All Over 740 Linear Foot	2,200	LF	\$_____	\$_____

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<u>Item No.</u>	<u>Description of Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
0019	All Shoulder Soldier H-Piles Tie Back for Permanent Retaining Wall				
0019AA	First 1,800 Linear Foot of H piles	1,800	LF	\$_____	\$_____
0019AB	All Over 1,800 Linear Foot of H piles	1,000	LF	\$_____	\$_____
0020	All Tie Back Anchors for Permanent Retaining Wall				
0020AA	First 3,600 Linear Foot	3,600	LF	\$_____	\$_____
0020AB	All Over 3,600 Linear Foot	1,000	LF	\$_____	\$_____
0021	All Common Excavation Above Elevation 1074				
0021AA	First 10,000 Cubic Yard	10,000	CY	\$_____	\$_____
0021AB	Over 10,000 Cubic Yard	5,500	CY	\$_____	\$_____
0022	All Rock and Concrete Excavation Above Elevation 1074				
0022AA	First 23,000 Cubic Yard	23,000	CY	\$_____	\$_____
0022AB	Over 23,000 Cubic Yard	12,100	CY	\$_____	\$_____
0023	All 30' Long Rock Bolts #11, Threaded Bar Grade 150 Above Elevation 1074				
0023AA	First 90 Each	90	EACH	\$_____	\$_____
0023AB	All Over 90 Each	85	EACH	\$_____	\$_____
0024	All 30' Long Rock Bolts, #8 Threaded Bar Grade 75 Above Elevation 1074				
0024AA	First 100 Each	100	EACH	\$_____	\$_____
0024AB	All Over 100 Each	185	EACH	\$_____	\$_____

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<u>Item No.</u>	<u>Description of Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
0025	All 20' Long Rock Bolts, #8 Threaded Bar Grade 75 Above Elevation 1074				
0025AA	First 600 Each	600	EACH	\$_____	\$_____
0025AB	All Over 600 Each	215	EACH	\$_____	\$_____
0026	All 30' Long Weep Holes Above Elevation 1074				
0026AA	First 200 Each	200	EACH	\$_____	\$_____
0026AB	All Over 200 Each	70	EACH	\$_____	\$_____
0027	All 6" Thick Shotcrete				
0027AA	First 25,000 Square Foot	25,000	SF	\$_____	\$_____
0027AB	All Over 25,000 Square Foot	14,000	SF	\$_____	\$_____
0028	All Welded Wire Fabric Above Elevation 1074				
0028AA	First 1,000 Square Foot	1,000	SF	\$_____	\$_____
0028AB	All Over 1,000 Square Foot	3,600	SF	\$_____	\$_____
0029	All Rock and Concrete Excavation Below Elevation 1074				\$_____
0029AA	First 1,500 Cubic Yard	1,500	CY	\$_____	\$_____
0029AB	All Over 1,500 Cubic Yard	800	CY	\$_____	\$_____
0030	All 30' Long Rock Bolts #11, Threaded Bar Grade 150 Below Elevation 1074				
0030AA	First 5 Each	5	EACH	\$_____	\$_____
0030AB	All Over 5 Each	5	EACH	\$_____	\$_____

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<u>Item No.</u>	<u>Description of Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
0031	All 30' Long Rock Bolts, #8 Threaded Bar Grade 75 Below Elevation 1074				
0031AA	First 12 Each	12	EACH	\$_____	\$_____
0031AB	All Over 12 Each	12	EACH	\$_____	\$_____
0032	All 20' Long Rock Bolts, #8 Threaded Bar Grade 75 Below Elevation 1074				
0032AA	First 16 Each	16	EACH	\$_____	\$_____
0032AB	All Over 16 Each	16	EACH	\$_____	\$_____
0033	All 30' Long Weep Holes Below Elevation 1074				
0033AA	First 4 Each	4	EACH	\$_____	\$_____
0033AB	All Over 4 Each	5	EACH	\$_____	\$_____
0034	All Welded Wire Fabric Below Elevation 1074				
0034AA	First 700 Square Foot	700	SF	\$_____	\$_____
0034AB	All Over 700 Square Foot	300	SF	\$_____	\$_____
0035	All Work for Cut-Off-Wall (South Shore) 5' into Rock to Elevation 1170'	1	JOB	LS	\$_____
0036	Emergency Mobilization & Demobilization For When Water Elevation Is Above Elevation 1150	2	EACH	\$_____	\$_____
0037	Emergency Mobilization & Demobilization For When Water Elevation Is Above Elevation 1165	2	EACH	\$_____	\$_____
0038	Emergency Mobilization & Demobilization For When Water Elevation Is Above Cofferdam Elevation 1169	2	EACH	\$_____	\$_____

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<u>Item No.</u>	<u>Description of Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
0039	All Work for As-Built Drawings as specified in Section 01702 from preparation to final approval	1	JOB	LS	\$25,000.00
	<u>TOTAL ALL ITEMS</u>				\$_____

NOTES:

1. The dollar amount established in Item No. 0039 shall not be revised by bidder.
2. Contract Clause "Variation in Estimated Quantity" in Section 00700 does not apply to Bid Items 0036, 0037, and 0038. If Emergency Demobilization and Remobilization and Standby of Equipment and Crew is used, the Contractor will be paid the unit price for the actual number of moves out of the work demobilization and remobilization and for number of standby days of equipment and crew as described in Section 01025 of the specifications. If Emergency Demobilization, Remobilization, Standby of Equipment, and Crew do not occur, the Bid Items will not be used and the government will issue a credit modification for each unused bid item in its entirety.

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SECTION 00110

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2. Evaluation Method

I. Past Performance in Implementing Subcontracting Plans

- 1. No Submittal Required for this Criterion**
- 2. Evaluation Method**

6. PROPOSAL EVALUATION AND AWARD

A. Relative Importance Definitions

- 1. Significantly More Important**
- 2. More Important**
- 3. Equal**

B. Ranking of Importance of Technical Evaluation Factors

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E. Discussions

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7. DEBRIEFINGS

A. Pre-award

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8. PROPOSAL EXPENSES AND PRE-CONTRACT COSTS

SECTION 00110

PROPOSAL SUBMISSION AND EVALUATION

1. INTRODUCTION.

A. Invitation. Your firm is invited to submit a proposal for the project entitled "**Howard Hanson Dam Fish Passage Restoration Facility, Cofferdam and Excavation, King County Washington, DACW67-03-R-0001.**" Prospective offerors are required to prepare and submit proposals that will be evaluated in accordance with this section of the solicitation. This solicitation is issued as a Request For Proposal (RFP). Proposals will be evaluated based upon technical merit and cost. The Government intends to make award on initial offers. Selection will be based upon best value to the Government using the criteria herein.

B. Project Description. Howard Hanson Dam (HHD) and Reservoir is located on the Green River in western Washington and is a 230-foot-high rock fill dam. The reservoir is connected to the Green River downstream of the dam by an outlet tunnel. The tunnel is 900 ft long, with a 19 ft semi-horseshoe shaped cross section, which is concrete lined. The dam will be retrofitted with a downstream juvenile fish passage restoration facility with a collection tower and flume over the dam. The facility must be installed in an excavation behind a cofferdam due to the fluctuating reservoir levels throughout the year. This contract is for construction of a pre-cast and cast-in place 100' high cofferdam and excavation of the foundation for the fish passage facility according to the plans and specifications of this solicitation. The Cofferdam structure will become a permanent part of the fish passage facility. The work includes working under harsh conditions during part of the year because of the dam's primary mission of storing water for flood control during the rainy season. The contract includes extensive water quality maintenance requirements because the reservoir stores and releases water to the City of Tacoma diversion dam and water supply pipeline downstream of the reservoir. In addition there are extensive requirements for the protection of the existing dam structures because of the close proximity of the structures to the proposed excavation.

2. SUBMITTAL REQUIREMENTS.

A. General Requirements. Proposals shall be submitted in two parts: (a) technical proposal, and (b) price proposal. Each shall be submitted in a separate envelope or package with the type of proposal (i.e., technical or price) clearly printed on the outside of the envelope or package. The maximum number of pages in the proposal should not exceed **150 pages** with font size no smaller than 10 point. Proposals must set forth full, accurate, and complete information as required by this RFP. Absence of information will be deemed as if no support for that criterion was provided. Offerors submitting proposals should limit submission to data essential for evaluation of proposals so that a minimum of time and money is expended in preparing information required by the Request for Proposals (RFP). Proposals are to be on 8 ½ x 11-inch paper, to the maximum extent practicable, and submitted in standard letter (8½ x 11-inch) hardback loose-leaf binders. Contents of binders shall be tabbed and labeled to afford easy identification from the proposal Table of Contents. No material shall be incorporated by reference or reiteration of the RFP. Any such material will not be considered for evaluation. It

shall be presented in a manner, which allows it to "STAND ALONE" without need for evaluators to reference other documents. Photographs and organizational charts will not be considered a page. Unnecessarily elaborate brochures or other presentation materials beyond those sufficient to present complete and effective responses are not desired and may be construed as an indication of the proposer's lack of cost-consciousness. Penalty for making false statements in proposals is prescribed in 18 U.S.C. 1001.

B. Technical Proposal Format. Submit 5 copies, consisting of an **original and 4 copies**. As a minimum, each copy of the technical proposal should contain the information and follow the general format specified below. Pages should be numbered from beginning to end, without repeating for new sections.

1. **Table of Contents**: List all sections contained in the technical proposal. A separate section shall be provided for each evaluation criterion. Any additions or revisions to the proposal shall include an updated Table of Contents for each set.

2. **Evaluation Criteria Information**. Provide a separate tab for each evaluation criterion. Behind the tab provide all information identified in the Submittal Requirements for each criterion.

C. Price Proposal Format. Submit 1 original signed by an official authorized to bind your firm. This proposal is due at the same time as the technical proposal, but shall be submitted in a separate envelope labeled "Price Proposal." Your price proposal is firm for the number of calendar days specified on the Standard Form 1442, Block 13D. The price proposal shall contain the following:

1. Standard Form 1442, Solicitation, Offer and Award (complete the reverse side, acknowledge the number of amendments received, and sign and date the form).
2. Corporate Certificate or Authority to Bind Partnership
3. Pricing schedule (submit prices for all items in the Schedule).
4. Section 00600, Representations, Certifications and Other Statements of Offerors and Pre-award information
5. Banking and Bonding information for the company signing the SF1442
6. Bid Bond
7. Small and Disadvantaged Business Subcontracting Plan (Applies to Large Businesses only with proposals in excess of \$1,000,000). Award will not be made under this solicitation without an approved subcontracting plan signed by the Contracting Officer.

3. EVALUATION FACTORS – Proposals will be evaluated on the basis of two criteria: TECHNICAL and PRICE.

A. Technical Evaluation Criteria:

1. Relevant experience of the Offeror's Construction Team
2. Qualifications of key team members
3. Past Performance

4. Proposed Schedule
5. Proposal for Protection of Existing Structures
6. Proposal for Water Quality Protection
7. Proposal for Working in the Fluctuating Conditions of the Reservoir
8. Proposal for Permanent Structure Foundation
9. Past Performance in Implementing Subcontracting Plans

B. Price: Price will be evaluated for reasonableness, but not rated. Financial and bonding capacity will also be checked, but not rated.

4. EVALUATION RATINGS. Proposals will be evaluated using the following adjectival descriptions:

A. Outstanding – Information submitted demonstrates Offeror’s potential to significantly exceed performance or capability standards. The Offeror has clearly demonstrated an understanding of all aspects of the requirements to the extent that timely and highest quality performance is anticipated. Has exceptional strengths that will significantly benefit the Government. The Offeror has convincingly demonstrated that the RFP requirements have been analyzed, evaluated, and synthesized into approaches, plans and techniques that, when implemented, should result in outstanding, effective, efficient, and economical performance under the Contract. Very significantly exceeds most or all solicitation requirements. Very high probability of success.

B. Above Average – Information submitted demonstrates Offeror’s potential to exceed performance or capability standards. Has one or more strengths that will benefit the Government. The areas in which the Offeror exceeds the requirements are anticipated to result in a high level of efficiency or productivity or quality. The submittal contains excellent features that will likely produce results very beneficial to the Government. Fully meets all RFP requirements and exceeds many of the RFP requirements. Response exceeds a “Satisfactory” rating. High probability of success.

C. Satisfactory (Neutral) – Information submitted demonstrates Offeror’s potential to meet performance or capability standards. Acceptable solution. Few or no advantages or strengths. Equates to Neutral. Good probability of success as there is sufficient confidence that a fully compliant level of performance will be achieved. Meets all RFP requirements. Complete and comprehensive proposal; exemplifies an understanding of the scope and depth of the task requirements and the Offeror’s understanding of the Government’s requirements. Response exceeds a “Marginal” rating. Good Probability of Success.

D. Marginal – The submittal is not adequately responsive or does not address the specific factor(s) (or criteria). The Offeror’s interpretation of the Government’s requirements is so superficial, incomplete, vague, incompatible, incomprehensible, or incorrect as to leave doubt as to the offeror’s capability for satisfactory performance. The assignment of a rating within the bounds of “Marginal” indicates that the evaluator feels that mandatory corrective action would be required to prevent significant deficiencies from affecting the overall project. Low probability of success although the submittal has a reasonable chance of becoming at least

acceptable. Response exceeds an “Unsatisfactory” rating. Moderate risk of unsuccessful performance.

E. Unsatisfactory – Fails to meet performance or capability standards. Unacceptable. Requirements can only be met with major changes to the submittal. The submittal does not meet the minimum requirements of the RFP. There is no reasonable expectation that acceptable performance would be achieved. Offeror’s qualifications have many deficiencies and/or gross omissions; failure to provide a reasonable, logical approach to fulfilling much of the Government’s requirements; failure to meet many of the minimum requirements. High risk of unsuccessful performance.

5. MINIMUM SUBMITTAL REQUIREMENTS AND EVALUATION METHOD

A. *Relevant Experience of the Offeror’s Construction Team.*

1. Definitions.

a. The Offeror’s **Construction Team** is defined as the Prime Firm and Subcontracting Firms taken as a whole.

b. **Relevant experience** is defined as a project that has been completed within the last ten years; or has been started and is at least 50% complete; has a logical connection with the requirements in this RFP; was similar in nature, magnitude and complexity to this project.

2. Submittal Requirements.

a. Organization Chart - Offerors shall provide an organizational chart clearly showing the Construction Team and their responsibilities for this project. The Organizational chart shall show as a minimum the following items:

- i. Prime Contractor
- ii. Subcontractors
- iii. Key personnel in each firm. (See next criterion “Qualifications” for minimum positions to be shown on the organization chart)
- iv. The organization chart shall also show the features of work under this contract that each organization is responsible for.

b. Experience examples - Offerors shall demonstrate that their Construction Team has relevant experience in the following types of work by providing examples of projects completed within the past 10 years, or under construction and at least 50% complete. The offeror shall explain how the project information provided is relevant to the proposed acquisition.

i. Types of Work Experience Required:

- a. Cofferdam construction and related cofferdam excavation, foundation and in-water work
- b. Rock excavation
- c. Water Quality Maintenance during Construction
- d. Close-in Blasting (defined as blasting that must be done in such a manner as to protect nearby structures)
- e. Underwater Concrete Work

ii. Minimum Project Information:

- a. Project title and location;
- b. Dollar value of construction;
- c. Construction period (month/year start to month/year end);
- d. Brief description of how the project is relevant, and meets the requirements of this RFP;
- e. Current primary point of contact for the customer (name, relationship to project, agency/firm affiliation, city and state, phone number).

3. Evaluation Method. The evaluation team will use the Organization Chart and the Examples of relevant experience to evaluate the *relevant experience of the Offeror's construction team*. The organization chart will be evaluated for functionality, completeness and reasonableness and the degree to which the offeror demonstrates an understanding of the aspects required for successfully accomplishing the work described in the solicitation. Firms will also be evaluated on the quantity and quality of experience of their team. Experience in all of the types of work listed above is required for a satisfactory rating. The greater the number, relevance and recency of prior project experience, the higher the rating assigned during evaluations.

B. Qualifications of Key Team Members.

1. Definitions. Key Team members are defined as the following personnel:

a. Prime Firm Project Superintendent. The Project Superintendent shall be either a graduate engineer or experienced construction person and demonstrate relevant experience on similar projects.

b. Subcontractor Project Managers. The Subcontractor project managers shall have relevant experience on projects similar to the proposed responsibilities for this project.

c. Key Technical Personnel. Technical Personnel shall be professionally registered, if required by their profession. For this solicitation, Key Technical Personnel include:

- Blasting
- Environmental Coordinator

- Safety Officer
- Quality Control Officer
- Submittals Manager
- Underwater Concrete Tech

2. Submittal Requirements.

a. Résumés of Key Prime and Subcontractor Personnel. The Offeror shall submit a résumé for key construction personnel from the Prime Firm and Subcontractors that will be assigned to this project. (Note: each person should also be shown in the Construction Team Organization Chart.) The proposal should clearly present the credentials of each person. It is important that each resume include the relevant project experience mentioned in Item 5.A above. Include all relevant educational qualifications. Résumé should be no more than two (2) pages per individual and submitted in a format similar to the one below. It is expected that each key individual in your proposal will be the individual who performs work under the contract. Because selection will be partly based on this criterion, the government reserves the right to approve substitutions in personnel during the contract period.

b. Summary of the Duties and Responsibilities of Key Personnel. In addition to the résumés, the Offeror shall provide a summary of the duties and responsibilities of these individuals. As a minimum, this sub-factor should include data on the following Resume Format:

c. Résumé Format. Résumé should be no more than two (2) pages per individual and submitted in a format similar to the one below:

<i>Name</i>
<i>Title for this project</i>
<i>Summary of the Duties/Responsibilities for this project</i>
<i>Firm Affiliation/Years Affiliated</i>
<i>Total Number of Years in the Construction Industry</i>
<i>Years of Experience performing duties/functions as proposed for this project.</i>
<i>Education - Degree, Certification, Year, and Specialization</i>
<i>Active Registrations/Professional/Technical Licenses/Certifications</i>
<i>Specific Qualifications for this project (See criterion for any special instructions such as a minimum number of projects to list)</i>
<i>List of Relevant Experience. For each project listed, provide:</i>
<i>Project Title & Location</i>
<i>Year(s) constructed</i>
<i>Firm Affiliated with during this project</i>
<i>Duties/Functions</i>

3. Evaluation Method: The more recent, and the greater the extent and relevance of the team members' qualifications, prior project experience, the higher the rating assigned for this criterion during evaluations. Only one individual for each of the key personnel categories listed above will be evaluated.

C. Past Performance.

1. Definitions.

CCASS. Construction Contract Administration Support System. This system is maintained by the Corps of Engineers and contains past performance evaluations for projects completed for the Army (including Corps of Engineers), Air Force and Navy. Offerors wanting to review ratings contained in the CCASS database may request the information by submitting a fax, on company letterhead, to (503) 808-4596.

2. Submittal Requirements

a. CCASS – If a project listed under relevant experience criterion has a performance evaluation in the CCASS database, the offeror **does not** need to provide a copy of the evaluation.

b. Customer Satisfaction Survey. The reproducible Customer Satisfaction Survey form located at the end of this section will be used to provide information from your customers for the prime contractor regarding satisfaction, quality of work, and timely performance of the projects listed in the relevant experience examples. To be considered, your past customers (not the offeror) must complete the surveys and mail, hand-deliver, or fax directly to the Contracting Office, for receipt no later than the time and date the proposals are due. Customer Satisfaction Surveys should only be provided for projects constructed by the prime, listed under relevant experience, and for which a CCASS evaluation is not available. All Customer Satisfaction Surveys must be **submitted** to the Seattle District, Corps of Engineers **by the customer/agency** providing the information. Surveys submitted by the contractor will not be considered. Please ensure envelopes containing survey forms do not contain the offeror's return address. Offerors shall **submit a list** of all customers to whom Customer Satisfaction Surveys were provided, including current point of contact and phone number.

3. Evaluation Method. The Government reserves the right to consider all aspects of an offeror's performance history. The CCASS database will be queried and copies of evaluations will be provided to evaluators for consideration. The Government may also contact previous customers as references, and will use Customer Satisfaction Surveys received from customers. Past performance for projects listed under relevant experience will be evaluated first and higher evaluation ratings will be given for relevant projects with outstanding evaluations. In descending order, lower ratings may be given to evaluations of Above Average, Average, Marginal, and Unacceptable or projects that have no relevance or connection to the scope of work anticipated under this contract. Other evaluations found in the CCASS database and other Customer Satisfaction Surveys will be considered. If an Offeror has no relevant past performance data to evaluate or no information on past performance is available, a neutral rating will be assigned. The Government may initiate exchanges with an offeror to clarify adverse past performance

information when the Offeror has not previously had an opportunity to comment on the evaluation. The Government reserves the right to contact the evaluators of either the CCASS or the Customer Satisfaction Surveys submitted. The Government also reserves the right, but is not obligated, to query any Government agencies, databases, and publications for information such as performance evaluations, debarment, terminations, and litigation for evaluation purposes.

D. Proposed Schedule

1. Submittal Requirements. Offeror shall provide Work Schedule detailing how all work shall be accomplished in a contract timeline. The schedule shall be printed using professional project scheduling software and shall show all phases of work proceeding from the date of “Notice to Proceed (NTP)”. For the purposes of preparing this schedule, Offerors shall assume that NTP will be given on the 60th calendar day after the date the proposals are due. The schedule shall include:

- a. Sequence of Cofferdam erection, completion, and excavation behind cofferdam when it is completed.
- b. An indication of the average reservoir level as it relates to work operations at various times of the year.
- c. Cofferdam foundation work required to be accomplished when reservoir is at lowest yearly levels.
- d. One arbitrary emergency de-mobilization and re-mobilization cycle from elevation 1150 during the flood control season to act as a scheduling placeholder for actual flooding during the contract period. The cycle must agree with historical records as to duration and standby time.
- e. Indication of required contractor notice to City of Tacoma in advance of high turbidity events during excavation and required follow-on period of non-turbid activities.
- f. Required Diving Operations
- g. A placeholder of 4 weeks at the end of contract where the Offeror must maintain and dewater the excavation prior to the Phase 2 contractor’s assumption of the site.

2. Evaluation Method. Schedules will be evaluated for completeness, reasonableness and understanding of the work. Complete schedules will include all of the tasks identified above. Schedules that illustrate a logical sequencing of events and a greater understanding of the work will receive a more favorable evaluation. Proposals that include unrealistic or unsupported schedules will be evaluated unfavorably.

E. Proposal for Protection of Existing Structures

1. Submittal Requirements. The Offeror shall provide the following two detailed plans:

a. Close-In Blasting Plan. Submit a detailed plan including the methodology to be used in determining safe blasting parameters.

b. Cooperation Plan. Submit a detailed plan indicating the cooperation required of the Offeror with the government in the interpretation of instrumentation data.

2. Evaluation Method. The Close-in Blasting Plan and Cooperation Plan will be evaluated to determine the Offeror's understanding of the strict requirements of the contract to protect existing structures that are in close proximity to the cofferdam site. The greater the understanding demonstrated by the Plans the higher the assigned rating.

F. Proposal for Water Quality Protection

1. Requirements. Offeror shall provide a detailed Water Quality Management Plan to show that the Offeror understands the strict contract requirements for the maintenance of water quality due to the upstream proximity of the construction to Tacoma's water supply pipeline. The Offeror's plan must meet all requirements of the specifications. The plan must show:

a. Site Run-Off Water Control Plan. Submit a detailed plan to control site run-off water, including use of sedimentation pond.

b. Water Pollution Control Plan. Submit a detailed plan to control water pollution due to contractor activities.

c. Turbid Water Control Plan. Submit a detailed plan to control turbid water from excavation.

d. SEDIMENT CONTROL PLAN. Submit a detailed plan to control sediments within the reservoir and project site in general.

e. Emergency Pollution Response Plan. Submit a detailed plan for emergency pollution response. Identify the firm to be used for this response plan.

f. Construction Shutdown Plan. Submit a detailed plan for construction shutdowns to manage turbidity.

g. Tacoma Public Utilities Temporary Shutdown Schedule. Submit a schedule identifying all activities requiring temporary shutdowns of Tacoma Public Utilities water supply facilities and tentative timeframes of such events.

h. Details of boat to be provided by Offeror to government for Water Quality monitoring.

2. Evaluation Method. Plans will be evaluated for completeness, reasonableness and understanding of the work. The more thorough and reasonable the plan, and the more the plan demonstrates the offeror's understanding of the work requirements, the higher the assigned rating.

G. Proposal For Working in the Fluctuating Conditions of the Reservoir from Elevation 1070 to Elevation 1150.

1. Submittal Requirements. Submit a detailed plan that demonstrates the offeror's understanding of the harsh conditions of the reservoir during flood control season and the high reservoir storage pool during the conservation season. Include the means and methods to be employed to be most effective in accomplishing the work in spite of the fluctuating reservoir levels using the data for the period of record of the reservoir as provided in the project Hydraulics and Hydrology Baseline Report. Also include your plan for work interruptions and standby time when working in the reservoir below elevation 1150. Please note that no separate payment will be made to the Offeror for work stoppages due to the fluctuating reservoir levels below elevation 1150 during flood control season.

2. Evaluation Method. Plans will be evaluated for completeness, reasonableness and understanding of the work. The more thorough and reasonable the plan, and the more the plan demonstrates the offeror's understanding of the work requirements, the higher the assigned rating.

H. Proposal for Permanent Structure Foundation.

1. Submittal Requirements. The Cofferdam structure will serve as the permanent upstream portion of the Fish Passage Facility. Submit a detailed plan, including technical details, of the proposed means and methods of ensuring the integrity of the foundation and watertightness of the Cofferdam during project performance. The proposal shall include information on:

- a. Underwater rock excavation
- b. Underwater concrete
- c. Underwater Grouting
- d. Embedded metals
- e. Structural integrity assurance
- f. Watertightness of cofferdam

2. Evaluation Method. Plans will be evaluated for completeness, reasonableness and understanding of the work. The more thorough and reasonable the plan, and the more the plan demonstrates the offeror's understanding of the work requirements, the higher the assigned rating.

I. Past Performance in Implementing Subcontracting Plans

1. No submittal required for this criterion. The Government will utilize performance evaluations contained in the Construction Contract Administration Support System (CCASS) to evaluate this criterion.

2. Evaluation Method. Firms will be evaluated based on the ratings received for item 16i, "Implementation of Subcontracting Plan" for performance evaluations retrieved from the

CCASS system. Firms without any evaluations in the CCASS system, or for which this item is not evaluated (N/A) will receive a neutral (Satisfactory) rating. Firms that are rated Satisfactory or higher for this item in CCASS report(s) will receive a rating of Satisfactory. Firms that receive a rating below Satisfactory for this item in one or more CCASS reports will receive a rating of Marginal for this criterion

6. PROPOSAL EVALUATION AND AWARD

A. Relative Importance Definitions: For the purpose of this evaluation, the following terms will be used to establish the relative importance of each criterion:

1. Significantly More Important: The criterion is at least two times greater in value than another criterion.

2. More Important: The criterion is one and one half times greater in value than another criterion, but less than two times greater in value.

3. Equal: The criterion is of the same value as another criterion.

B. Ranking of Importance of Technical Evaluation Factors:

1. “Relevant experience of the Offeror’s Construction Team” is more important than:

- Qualifications of key team members
- Past Performance
- Proposed Schedule

And is significantly more important than all other criteria.

2. “Qualifications of key team members”, “Past Performance”, “Proposed Schedule” are equal in value but more important than:

- Proposal for Protection of Existing Structures
- Proposal for Water Quality Protection
- Proposal for Working in the Fluctuating Conditions of the Reservoir
- Proposal for Permanent Structure Foundation
- Extent of Small And Small and Disadvantaged Business Participation

3. “Proposal for Protection of Existing Structures”, and “Proposal for Water Quality Protection” are equal in value but are more important than “Proposal for Working in the Fluctuating Conditions of the Reservoir” and “Proposal for Permanent Structure Foundation”.

4. “Proposal for Working in the Fluctuating Conditions of the Reservoir”, and “Proposal for Permanent Structure Foundation” are equal in value but are more important than “Extent of Small And Small and Disadvantaged Business Participation”.

C. Evaluation. Proposals will be evaluated based technical merit and cost. A firm fixed-price contract will be awarded to one firm submitting the proposal that conforms to the terms and conditions of the solicitation, provides the best value to the Government based upon

consideration of both technical merit and cost, and is determined to be in the best interest of the Government.

D. Competitive Range. The Government intends to make award based on initial offers. However, if it is not possible to make award based on initial offers and the Contracting Officer determines that discussions are necessary, the Contracting Officer will establish a competitive range comprised of the most highly rated proposals. The Contracting Officer may elect to further reduce the number of firms in the competitive range for the purposes of efficiency. Proposals that are eliminated or otherwise removed from the competitive range will not be considered for award, and any further revisions to that offeror's proposal will not be accepted or considered.

E. Discussions. Discussions will be held only with the firms in the competitive range. If, after discussions have begun, an offeror originally in the competitive range is no longer considered to be among the most highly rated offerors being considered for award, that offeror may be eliminated from the competitive range whether or not all material aspects of the proposal have been discussed, or whether or not the offeror has been afforded an opportunity to submit a proposal revision. Discussions will normally be conducted in writing. The Contracting Officer will discuss with each offeror in the competitive range, significant weaknesses, deficiencies, and other aspects of its proposal that could, in the opinion of the Contracting Officer, be altered or explained to enhance materially the proposal's potential for award. The scope and extent of discussions are a matter of Contracting Officer judgment. At the conclusion of discussions, each offeror still in the competitive range will be given an opportunity to submit a final proposal revision. At this point, the Government intends to make award without obtaining further revisions.

F. Selection and Award – The Government intends to make award based on initial offers. If discussions are conducted, then after receipt of final proposal revisions, the Technical Evaluation Team will evaluate supplemental information provided by offerors, adjust technical ratings previously assigned, and provide a recommendation to the Contracting Officer. Subsequently, and after evaluation of any changes to proposed prices, the Contracting Officer will perform a best-value analysis. In determining the best value to the Government, the tradeoff process of evaluation will be utilized. The tradeoff process permits tradeoffs among technical criteria and price, and allows the Contracting Officer to consider award to other than the lowest priced offeror or other than the highest technically rated offeror. **For this solicitation, technical factors are regarded higher than the price.** Selection will be made to the responsible offer that conforms to the solicitation and represents the most advantageous offer to the Government.

7. DEBRIEFINGS.

A. Pre-award. Offerors excluded from the competition before award will receive a notice and may request a debriefing before award by submitting a written request for a debriefing to the Contracting Officer within three (3) days after receipt of the notice of exclusion from the competition.

B. Post Award. Unsuccessful Offerors shall request post-award debriefing within three (3) days after the date on which the offeror received notification of contract award. Point-by-point comparisons with other offerors' proposals will not be made, and debriefings will not reveal any information that is not releasable under the Freedom of Information Act.

8. PROPOSAL EXPENSES AND PRECONTRACT COSTS. This solicitation does not commit the Government to pay costs incurred in preparation and submission of the initial and any subsequent proposals or any other costs incurred prior to execution of a formal contract.

END SECTION 00110

SEE CUSTOMER SATISFACTION SURVEY FOLLOWING THIS PAGE

CUSTOMER SATISFACTION SURVEY

DACW67-03-R-0001, Howard Hanson Dam Fish Passage Restoration Facility, Cofferdam and
Excavation, King County Washington
Seattle District, Corps of Engineers

SECTION 1 -- TO BE COMPLETED BY THE OFFEROR AND PROVIDED TO THE CUSTOMER REFERENCE

Name of Firm Being Evaluated: _____

Project Title & Location: _____

Project Dollar Value (for design-build, list both design and construction amounts):

Year Completed: _____ Project Manager: _____

SECTION 2 -- TO BE COMPLETED BY THE CUSTOMER REFERENCE AND MAILED, HAND-DELIVERED, E-MAILED OR FAXED DIRECTLY TO: Forms submitted by other than the customer (i.e., by the offeror), will not be considered.

U.S. Army Corps of Engineers, Seattle District
Attn: CENWS-CT-CB-CU (J Alex Smith)
P.O. Box 3755
Seattle, WA 98124-3755

FAX: (206) 764-6817
Street Address:
4735 E. Marginal Way S.
Seattle WA 98134-2385
E- Mail j.alex.smith@usace.army.mil

OVERVIEW: The firm shown above has submitted a proposal on a Seattle District Corps of Engineers project and provided your name as a customer reference. Part of our evaluation process requires information on the firm's past performance. Your input is important to us and responses are required by **Bid Closing Date** for inclusion in our evaluation. Your assistance is greatly appreciated.

In the blocks below, please indicate your overall level of satisfaction with the work performed by the firm shown in Section 1. Mark *Not Applicable* (N/A) for any areas that do not apply. Please include comments on page 2 of this form.

	On this project, the firm:	Satisfaction					
		Low			High		
1.	Completed Your Major Project Milestones on Time	1	2	3	4	5	N/ A
2.	Delivered Quality Construction	1	2	3	4	5	N/ A
3.	Demonstrated a Willingness to Cooperate	1	2	3	4	5	N/ A

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 GENERAL

The contract price for each item shall constitute full compensation for furnishing all plant, labor, materials, appurtenances, and incidentals and performing all operations necessary to construct and complete the items in accordance with these specifications and the applicable drawings, including surveying performed by the Contractor. Payment for each item shall be considered as full compensation, notwithstanding that minor features may not be mentioned herein. Work paid for under one item will not be paid for under any other item. No separate payment will be made for the work, services, or operations required by the Contractor, as specified in DIVISION 1, GENERAL REQUIREMENTS, to complete the project in accordance with these specifications; all costs thereof shall be considered as incidental to the work.

1.2 MEASUREMENT

1.2.1 Measurement of Hookups to Grout Curtain Holes

The quantity of hookups for hydraulic pressure tests and placement of cement grout curtains will be measured for payment as the number of hookups performed as required.

1.2.2 Measurement of Portland Cement and Bentonite by 94-Pound Bag

Portland cement and bentonite used in grout curtains will be measured for payment as the number of bags of portland cement (94 pounds of cement per bag) mixed into grout and satisfactorily pumped into the grout holes.

1.2.3 Measurement of HRWRA Water Reducing Admixture by Gallon

Cement Grout HRWRA (High Range Water Reducing Admixture) water reducing Admixture use in grout curtains will be measured for payment as the number of gallons of admixture used for the cement grouting, unless wasted or used for the convenience of the Contractor.

1.2.4 Cubic Yard Excavation Measurement

1.2.3.1 A survey of the site shall be made by the Contractor just after commencement of the work under this contract and prior to the initiations of any excavation. All measurements for payment for excavation will be based on that survey and additional surveys as specified hereinafter without regard to any changes that may occur during the prosecution of the work. Quantities for payment for excavation will be determined in cubic yards based on cross-section measurements. The Contracting Officer will make all decisions concerning classification of the excavated materials. Payment for excavation will be made only for the volume of materials actually removed by the Contractor, and only for the materials excavated within the limits shown on the drawings or established in the field by the Contracting Officer. Payment for any given volume of excavation will not

be made under more than one classification of excavation. Payment for excavation will constitute full compensation for all cost associated with blasting, ripping, excavating, removal hauling, stockpiling, and disposal of the excavated materials.

1.2.3.2 The total quantity of excavated common material for which payment will be made will be the computed volume between two ground surfaces as determined by surveys performed prior to and immediately after the common excavation is complete. No allowance will be made for overdepth excavation or for the removal of any material outside the required slope lines unless authorized.

1.2.3.3 The total quantity of excavated material from rock and concrete excavation for which payment will be made will be the computed volume between two surfaces as determined by the second survey performed for calculating the common excavation and a subsequent survey performed after completion of rock and concrete excavation.

1.3 PAYMENT

1.3.1 ITEM 0001 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0001, All Work for Fish Passage Facility Cofferdam and Excavation, Except for Items 0002 Through 0039, payment of which shall constitute full compensation for Item No. 0001, complete.

1.3.2 ITEM 0002 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0002, Mobilization and Demobilization, payment of which shall constitute full compensation for Item No. 0002, complete, including costs for assembling all plant and equipment at the site preparatory to initiating the work and for removing it when all work has been completed, in accordance with Special Clause SC-11. This also shall include payment for any interim Demobilization and Remobilization that may be necessary. It is not, however, to be confused with Item No. 0018 below.

1.3.3 ITEM 0003 (BASE ITEM)

Payment will be made at the contract unit price for Item No. 0003, All Work for Reservoir Excavation & Debris Removal From Trash Racks, payment of which shall constitute full compensation for Item No. 0003, complete.

1.3.4 ITEM 0004 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0004, All Work for Multi-Point Borehole Extensometers, payment of which shall constitute full compensation for Item No. 0004, complete, including costs for drilling, groutable anchors, stainless steel rods, pvc tubes, vibrating wire displacement transducers of the appropriate range, the appropriate lengths of transducer cable and conduit, vibrating wire head assembly, grout, surface completion, installation of all components, and for furnishing all labor and supplies incidental to the work.

1.3.5 ITEM 0005 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0005, All Work for Piezometers, payment of which shall constitute full compensation

for Item No. 0005, complete, including costs for core drilling, vibrating wire pressure transducers of the appropriate range, the appropriate lengths of transducer cable and conduit, bentonite seals, sand, grout, surface completion, installation of all components, and for furnishing all labor and supplies incidental to the work.

1.3.6 ITEM 0006 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0006, All Work for Inclinometers, payment of which shall constitute full compensation for Item No. 0006, complete, including costs for core drilling, inclinometer casing, grout, the appropriate lengths of inclinometer cable and conduit, surface completion, one portable inclinometer probe and readout box used for reading all inclinometers, installation of all components, and for furnishing all labor and supplies incidental to the work.

1.3.7 ITEM 0007 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0007, All Work for Load Cells, payment of which shall constitute full compensation for Item No. 0007, complete, including costs for vibrating wire load cells, test bolts, grout, the appropriate lengths of cable and conduit, installation of all components, and for furnishing all labor and supplies incidental to the work.

1.3.8 ITEM 0008 (BASE ITEM)

Payment will be made at the contract unit price for Item No. 0008, All Work for Passive Relief Wells, payment of which shall constitute full compensation for Item No. 0008, complete.

1.3.9 ITEM 0009 (BASE ITEM)

Payment will be made at the contract unit price for Item No. 0009, All Work for Dewatering Wells, payment of which shall constitute full compensation for Item No. 0009, complete.

1.3.10 ITEM 0010 (BASE ITEM)

Payment will be made at the contract unit price for Item No. 0010, All Overburden Drilling for Grout Curtain Holes, (1, 2 & 4 Stage Holes), payment of which shall constitute full compensation for Item No. 0010, complete.

1.3.11 ITEM 0011 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0011, All Drilling for Grout Holes (1,2 & 4 Stage Holes) payment of which shall constitute full compensation for Item No. 0011, complete.

1.3.12 ITEM 0012 (BASE ITEM)

Payment will be made at the contract unit price for Item No. 0012, All Work for Redrilling Grout Curtain Holes (2 Stage Grout Curtains only) payment of which shall constitute full compensation for Item No. 0012, complete.

1.3.13 ITEM 0013 (BASE ITEM)

Payment will be made at the contract unit price for Item No. 0013, All Hookups To Grout Holes used in Placement of Cement Grout Curtains, payment of which shall constitute full compensation for Item No. 0013, complete.

1.3.14 ITEM 0014 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0014, All Portland Cement used in Grout Curtains, payment of which shall constitute full compensation for Item No. 0014, complete.

1.3.15 ITEM 0015 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0015, All Bentonite used in Grout Curtains, payment of which shall constitute full compensation for Item No. 0015, complete.

1.3.16 ITEM 0016 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0016, All HRWR Water Reducing Admixture (Anti-Washout Admixture) in Grout Curtains, payment of which shall constitute full compensation for Item No. 0016, complete.

1.3.17 ITEM 0017 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0017, All New Intake Tower Addition Tremie Concrete Below Elevation 1085, payment of which shall constitute full compensation for Item No. 0017, complete.

1.3.18 ITEM 0018 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0018, All 37 Each Vertical 1-3/4" Diameter Bars for New Intake Tower Addition (Plate S8.3), payment of which shall constitute full compensation for Item No. 0018, complete.

1.3.19 ITEM 0019 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0019, All ~~Shoulder~~ Soldier H-Piles Tie Back for Permanent Retaining Wall, payment of which shall constitute full compensation for Item No. 0019, complete.

1.3.20 ITEM 0020 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0020, All Tie Back Anchors for Permanent Retaining Wall, payment of which shall constitute full compensation for Item No. 0020, complete, including furnishing, installing, grouting, tensioning, and tie off of all permanent tie back anchors, as specified and as approved.

1.3.21 ITEM 0021 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0021, All Common Excavation, Above Elevation 1074, payment of which shall constitute full compensation for Item No. 0021, complete.

1.3.22 ITEM 0022 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0022, All

Rock and Concrete Excavation, Above Elevation 1074, payment of which shall constitute full compensation for Item No. 0022, complete.

1.3.23 ITEM 0023 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0023, All 30' Long Rock Bolts #11, Threaded Bar Grade 150 Above Elevation 1074, payment of which shall constitute full compensation for Item No. 0023, complete.

1.3.24 ITEM 0024 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0024, All 30' Long Rock Bolts, #8 Threaded Bar Grade 75 Above Elevation 1074, payment of which shall constitute full compensation for Item No. 0024, complete.

1.3.25 ITEM 0025 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0025, All 20' Long Rock Bolts, #8 Threaded Bar Grade 75 Above Elevation 1074, payment of which shall constitute full compensation for Item No. 0025, complete.

1.3.26 ITEM 0026 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0026, All 30' Long Weep Holes Above Elevation 1074, payment of which shall constitute full compensation for Item No. 0026, complete.

1.3.27 ITEM 0027 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0027, All 6" Thick Shotcrete, payment of which shall constitute full compensation for Item No. 0027, complete.

1.3.28 ITEM 0028 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0028, All Welded Wire Fabric, Above Elevation 1074, payment of which shall constitute full compensation for Item No. 0028, complete.

1.3.29 ITEM 0029 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0029, All Rock and Concrete Excavation, Below Elevation 1074, payment of which shall constitute full compensation for Item No. 0029, complete.

1.3.30 ITEM 0030 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0030, All 30' Long Rock Bolts #11, Threaded Bar Grade 150 Below Elevation 1074, payment of which shall constitute full compensation for Item No. 0030, complete.

1.3.31 ITEM 0031 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0031, All 30' Long Rock Bolts, #8 Threaded Bar Grade 75 Below Elevation 1074, payment of which shall constitute full compensation for Item No. 0031, complete.

1.3.32 ITEM 0032 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0032, All 20' Long Rock Bolts, #8 Threaded Bar Grade 75 Below Elevation 1074, payment of which shall constitute full compensation for Item No. 0032, complete.

1.3.33 ITEM 0033 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0033, All 30' Long Weep Holes, Below Elevation 1074, payment of which shall constitute full compensation for Item No. 0033, complete.

1.3.34 ITEM 0034 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0034, All Welded Wire Fabric, Below Elevation 1074, payment of which shall constitute full compensation for Item No. 0034, complete.

1.3.35 ITEM 0035 (BASE ITEM)

Payment will be made that the contract lump sum price for Item No. 0035, All Work for Cut-Off-Wall (South Shore) 5' into Rock to Elevation 1170', payment of which shall constitute full compensation for Item No. 0035, complete.

1.3.36 ITEM 0036 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0036, Emergency Mobilization & Demobilization For When Water Elevation Is Above Elevation 1150, payment of which shall constitute full compensation for Item No. 0036, complete.

1.3.37 ITEM 0037 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0037, Emergency Mobilization & Demobilization For When Water Elevation Is Above Cofferdam Elevation 1165, payment of which shall constitute full compensation for Item No. 0037, complete.

1.3.38 ITEM 0038 (BASE ITEM)

Payment will be made that the contract unit price for Item No. 0038, Emergency Mobilization & Demobilization For When Water Elevation Is Above Cofferdam Elevation 1169, payment of which shall constitute full compensation for Item No. 0038, complete.

1.3.39 ITEM 0039 (BASE ITEM)

Payment will be made that the contract lump sum price for Item No. 0039, All Work for As-Built Drawings as specified in Section 01702 from preparation to final approval payment of which shall constitute full compensation for Item No. 0039, complete.

1.4 PROGRESS PAYMENT INVOICE

Requests for payment shall be submitted in accordance with Federal Acquisition Regulations (FAR) Subpart 32.9, entitled "PROMPT PAYMENT", and Paragraphs 52.232-5 and 52.232-27, entitled "Payments Under Fixed-Price

Construction Contracts", and "Prompt Payment for Construction Contracts", respectively. In addition each request shall be submitted in the number of copies and to the designated billing office as shown in the Contract.

1.3.1 When submitting payment requests, the Contractor shall complete Blocks 1 through 12 of the "PROGRESS PAYMENT INVOICE" Form as directed by the Contracting Officer. (A sample form is attached at the end of this Technical Specification Section.) The completed form shall then become the cover document to which all other support data shall be attached.

1.3.2 One additional copy of the entire request for payment, to include the "PROGRESS PAYMENT INVOICE" cover document, shall be forwarded to a separate address as designated by the Contracting Officer.

1.3.3 The Contractor shall submit with each pay request, a list of subcontractors that have worked during that pay period. The listing shall be broken down into weeks, identifying each subcontractor that has worked during a particular week, and indicate the total number of employees that have worked on site for each subcontractor for each week. The prime Contractor shall also indicate the total number of employees for its on site staff for each week.

PART 2 NOT USED

PART 3 NOT USED

PROGRESS PAYMENT INVOICE

See Federal Acquisition Regulations (FAR) 32.900, 52.232-5, & 52.232-27

1. PROJECT AND LOCATION	2. DATE
3. CONTRACTOR NAME AND ADDRESS (Must be the same as in the Contract)	4. CONTRACT NO. _____
6. DESCRIPTION OF WORK	5. INVOICE NO. _____
8. DISCOUNT TERMS	7. PERIOD OF PERFORMANCE From: _____ To: _____
9. OFFICIAL TO WHOM PAYMENT IS TO BE FORWARDED Name: _____ Title: _____ Phone: () - _____	10. OFFICIAL TO BE NOTIFIED OF DEFECTIVE INVOICE Name: _____ Title: _____ Phone () - _____
11. CERTIFICATION: I hereby certify, to the best of my knowledge and belief, that (1) The amounts requested are only for the performance in accordance with the specifications, terms, and conditions of this contract; (2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and the requirements of Chapter 39 of Title 31, United States Code; and (3) This request for progress payment does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract.	
_____ (Signature)	_____ (Title)
_____ (Date)	
12. OTHER INFORMATION OR DOCUMENTATION required by Contract. Provide two (2) copies of each (check and attach if applicable): <input type="checkbox"/> Updated Progress Chart/Schedule <input type="checkbox"/> Progress Narrative <input type="checkbox"/> Certified Payrolls (submitted weekly) <input type="checkbox"/> Safety Exposure Report <input type="checkbox"/> Updated Submittal \register <input type="checkbox"/> Progress Photos <input type="checkbox"/> Subcontractor/Employee Listings	(FOR GOVERNMENT USE ONLY) Retainage: ____% Amt.: \$ _____ Withholdings: \$ _____ Reason: _____ _____ Following items are current: As-Builts <input type="checkbox"/> Yes <input type="checkbox"/> No O & M Manuals <input type="checkbox"/> Yes <input type="checkbox"/> No 1354 Data <input type="checkbox"/> Yes <input type="checkbox"/> No Submittal Register <input type="checkbox"/> Yes <input type="checkbox"/> No

END OF SECTION

SECTION 05616

STOPLOGS AND LIFTING BEAM

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 153/A 153M	(1995) Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 276	(2000) Stainless Steel Bars and Shapes
ASTM A 307	(1998) Carbon Steel Bolts and Studs, 60 000 psi Tensile Strength
ASTM A 325	(1997) Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength
ASTM A 572/A 572M	(1999) High-Strength Low-Alloy Columbium-Vanadium Structural Steel
ASTM B 505/B 505M	(1996) Copper-Base Alloy Continuous Castings
ASTM D 395	(1989; R 1994) Rubber Property - Compression Set
ASTM D 412	(1998a) Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers - Tension
ASTM D 413	(1982; R 1993) Rubber Property - Adhesion to Flexible Substrate
ASTM D 471	(1995) Rubber Property - Effect of Liquids
ASTM D 572	(1988; R 1994) Rubber - Deterioration by Heat and Oxygen
ASTM D 2240	(1995) Rubber Property - Durometer Hardness

Amend R0006AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

<u>ANSI B18.5</u>	<u>(1990) Round Head Bolts (Inch Series)</u>
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1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Detail Drawings; G

Detail drawings shall be submitted as specified in Section 05055a METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS.

Detail drawings shall be submitted for each stoplog and for the lifting beam. The detail drawings for the lifting beam shall fully detail the mechanical linkages required for smooth operation of the lifting beam. The Contractor shall design and detail the final mechanical latching mechanism and mechanical linkages required based on the provided criteria and schematic layout. The submitted design of the mechanical latching mechanism and mechanical linkages shall be sealed by a registered professional engineer.

SD-03 Product Data

Welding; G

Schedules of welding procedures for structural steel shall be submitted as specified in Section 05055a METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS.

Materials

Materials orders, materials lists and materials shipping bills shall be submitted as specified in Section 05055a METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS.

Materials Disposition Records

A system of identification which shows the disposition of specific lots of approved materials and fabricated items in the work shall be established and submitted before completion of the contract.

SD-06 Test Reports

Tests, Inspections, and Verifications

Certified test reports for material tests shall be submitted with all materials delivered to the site.

Amend R0006

SD-07 Certificates

Fabrication

A copy of the AISC certificate indicating that the fabrication plant meets the specified structural steelwork category.

1.3 QUALIFICATION OF WELDERS AND WELDING OPERATORS

Qualification of welders and welding operators shall conform to the requirements of Section 05055a METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS.

1.4 DELIVERY, STORAGE AND HANDLING

Amend R0006

Delivery, handling and storage of materials and fabricated items shall conform to the requirements specified herein and in Section 05055a METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS. Materials and equipment delivered to the site by the Contracting Officer, ~~including the Government provided lifting beam,~~ shall be unloaded by the Contractor. The Contractor shall verify the condition and quantity of the items delivered by the Contracting Officer and acknowledge receipt and condition thereof in writing to the Contracting Officer. If delivered items are damaged or a shortage is determined, the Contractor shall notify the Contracting Officer of such in writing within 24 hours after delivery.

1.4.1 Rubber Seals

Rubber seals shall be stored in a place which permits free circulation of air, maintains a temperature of 70 degrees F or less, and prevents the rubber from being exposed to the direct rays of the sun. Rubber seals shall be kept free of oils, grease, and other materials which would deteriorate the rubber. Rubber seals shall not be distorted during handling.

Amend R0006

1.5 AISC Quality Certification

Work shall be fabricated in an AISC certified category Cbr fabrication plant (for major steel bridges).

PART 2 PRODUCTS

2.1 MATERIALS

Amend R0006

Materials orders, materials lists and materials shipping bills shall conform to the requirements of Section 05055 METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS. The stoplogs and lifting beam shall also satisfy the requirements of Section 05120, STRUCTURAL STEEL.

2.1.1 Metals

Structural steel and other metal materials sections and standard articles shall be as shown and as specified herein and in Section 05120~~a~~ STRUCTURAL STEEL.

2.1.1.1 Structural Steel

Structural steel shall conform to ASTM A 572/A 572M, Grade 50 ksi unless otherwise noted.

Amend R0006

2.1.1.2 Stainless Steel Plates and Shapes

Stainless steel plates and shapes shall conform to ASTM A 276, Type 304, unless otherwise noted.

2.1.1.3 Bronze

All Bronze shall conform to ASTM B 505/B 505M, Copper Alloy UNS C93200.

2.1.2 Rubber Seals

Rubber seals shall be fluorocarbon (Teflon) clad rubber seals of the mold type only, shall be compounded of natural rubber, synthetic polyisoprene, or a blend of both, and shall contain reinforcing carbon black, zinc oxide, accelerators, antioxidants, vulcanizing agents, and plasticizers. However, horizontal seals need not be fluorocarbon (Teflon) clad. Physical characteristics of the seals shall meet the following requirements:

Amend R0006

PHYSICAL TEST	TEST VALUE	TEST METHOD SPECIFICATION
Tensile Strength	2,500 psi (min.)	ASTM D 412
Elongation at Break	450% (min.)	ASTM D 412
300% Modulus	900 psi (min.)	ASTM D 412
Durometer Hardness (Shore Type A)	60 to 70	ASTM D 2240
*Water Absorption	5% by weight (max.)	ASTM D 471
Compression Set	30% (max.)	ASTM D 395
Tensile Strength (after aging 48 hrs)	803500f 80% of tensile strength (min.)	ASTM D 572

* The "Water Absorption" test shall be performed with distilled water. The washed specimen shall be blotted dry with filter paper or other absorbent material and suspended by means of small glass rods in the oven at a temperature of 70 degrees C plus/minus 2 degrees C for 22 hours plus/minus

1/4 hour. The specimen shall be removed, allowed to cool to room temperature in air, and weighed. The weight shall be recorded to the nearest 1 mg as \bar{W}_1 \bar{M}_1 (\bar{W}_1 \bar{M}_1 is defined in ASTM D 471). The immersion temperature shall be 70 degrees C plus/minus 1 degree C and the duration of immersion shall be 166 hours.

2.1.2.1 Fabrication

Vertical rubber seals shall have a fluorocarbon film vulcanized and bonded to the sealing surface of the bulb. Horizontal seals need not have the fluorocarbon film. The film shall be 0.060 inch thick Huntington Abrasion Resistant Fluorocarbon Film No. 4508, or equal, and shall have the following physical properties:

Tensile strength 2,000 psi (min.)
 Elongation 250 percent (min.)

The outside surface of the bonded film shall be flush with the surface of the rubber seal and shall be free of adhering or bonded rubber. Strips and corner seals shall be molded in lengths suitable for obtaining the finish lengths shown and with sufficient excess length to provide test specimens for testing the adequacy of the adhesion bond between the film and bulb of the seal. At one end of each strip or corner seal to be tested, the fluorocarbon film shall be masked during bonding to prevent a bond for a length sufficient to hold the film securely during testing.

Amend R0006

2.1.3 Bearing Shoes on Stoplogs

Bearing shoes on stoplogs, which are bolted with recessed counter sunk screws to a stainless steel (304L) shoe spacer base, consist of a composite bar with a durable low friction surface on a carrier material which is of fabric reinforced laminated thermoset composite bearing material manufactured using a medium weave polyester fabric and polyester resin with the following:

Compressive Strength (ultimate):	43,500 psi - (normal to laminations)
	13,000 psi - (parallel to laminations)
Shear Strength:	11,600 psi
Tensile Strength:	8,700 psi
Hardness:	100 Rockwell M Scale
Swell in Water	<0.1 (% of wall thickness after 1 year)
Lubricant:	Molybdenum Disulfide & P.T.F.E.

Intended material is manufactured by Orkot as TXMM. Alternate experienced suppliers such as Kamatics or Lubron or other experienced suppliers with equivalent products will be considered.

2.2 MANUFACTURED UNITS

Amend R0006

Bolts, nuts, washers, screws, and other manufactured units shall conform with the requirements as shown and as specified.

2.2.1 Bolts, Nuts and Washers

Amend R0006

High-strength bolts, nuts, and washers shall conform to ASTM A 325, Type 1, hot-dip galvanized unless otherwise noted. Bolts, nuts, studs, stud bolts and bolting materials other than high-strength shall conform to ASTM A 307, Grade A, hot-dip galvanized unless otherwise noted. Stainless steel bolts, nuts, studs, studbolts, and bolting materials shall conform to ASTM A 193, austenitic steel, Grade B8N, Class 2, unless otherwise noted. Bolts 1/2 inch and larger shall have heavy hexagon heads. The finished shank of bolts shall be long enough to provide full bearing. Washers for use with bolts shall conform to the requirements specified in the applicable specification for bolts.

2.2.2 Screws

Screws shall be of the type indicated. Countersunk bolts and screws shall conform to ASME/ANSI B18.5 - 1990 socket drive. Stainless screws and bolts shall conform to ASTM A 193, Grade B8N, Class 2.

2.2.3 Lifting Beam for Stoplogs

The lifting beam for the stoplogs shall be provided and fabricated by the Contractor in the same fabrication shop used to fabricate the stoplogs prior to being needed for lifting and placing the stoplogs.

2.2.3.1 Bearings for Lifting Beam

All bearing-to-housing press fit shall be in accordance with Bearing Manufacturer's recommendations.

2.2.3.2 Hardware

All hardware specified as galvanized shall conform to ASTM A 153/A 153M.

2.3 FABRICATION

2.3.1 Detail Drawings

Amend R0006

Detail drawings of stoplogs and lifting beam and appurtenant shop fabricated items, including fabrication drawings, shop assembly drawings, delivery drawings, and field installation drawings, shall conform to the requirements specified and in Section 05055a METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS, and in Section 05120, STRUCTURAL STEEL.

2.3.1.1 Fabrication Drawings

Fabrication drawings shall show complete details of materials, tolerances, connections, and proposed welding sequences which clearly differentiate shop welds and field welds.

2.3.1.2 Shop Assembly Drawings

Shop assembly drawings shall provide details for connecting the adjoining fabricated components in the shop to assure satisfactory field installation.

2.3.1.3 Delivery Drawings

Delivery drawings shall provide descriptions of methods of delivering components to the site, including details for supporting fabricated components during shipping to prevent distortion or other damages.

2.3.1.4 Field Installation Drawings

Field installation drawings shall provide a detailed description of the field installation procedures. The description shall include the location and method of support of installation and handling equipment; provisions to be taken to protect concrete and other work during installation; method of maintaining components in correct alignment; and methods for installing appurtenant items.

2.3.2 Structural Fabrication

Amend R0006

Structural fabrication shall conform to the requirements as shown and as specified herein and in Section 05055a METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS, and in Section 05120, STRUCTURAL STEEL. Dimensional tolerances shall be as specified and as shown. Splices shall occur only where shown.

2.3.3 Welding

Welding shall conform to the requirements specified in Section 05055a METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS. Welds shall be of the type shown.

2.3.4 Bolted Connections

Bolted connections shall conform to the requirements specified in Section 05055a METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS.

2.3.5 Machine Work

Machine work shall conform to the requirements specified in Section 05055a METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS.

2.3.6 Miscellaneous Provisions

Miscellaneous provisions for fabrication shall conform to the requirements specified and in Section 05055a METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS. Zinc coating of hardware items shall conform to ASTM A 153/A 153M.

2.3.7 Fabrications

2.3.7.1 Stoplogs

Stoplogs shall be fabricated of structural steel conforming to ASTM A 572/A 572M, Grade 50 ksi, unless otherwise noted.

2.3.7.2 Stoplog Guides

Stoplog guides shall be fabricated of stainless steel conforming to ASTM A 276, Type 304, unless otherwise noted.

2.3.7.3 Miscellaneous Embedded Metals

Corner protection angles, frames, base plates, and other embedded metal items required for complete installation shall conform to the details shown, and shall conform to ASTM A 276, Type 304 stainless steel, unless otherwise noted.

2.3.8 Seal Assemblies

Seal assemblies shall consist of rubber seals, stainless steel retainer and spacer bars, and fasteners. Rubber seals shall be continuous over the full length. Seals shall be accurately fitted and drilled for proper installation. Bolt holes shall be drilled in the rubber seals by using prepared templates or the retainer bars as templates. Splices in seals shall be fully molded, develop a minimum tensile strength of 50 percent of the unspliced seal, and occur only at locations shown. All vulcanizing of splices shall be done in the shop. The vulcanized splices between molded corners and straight lengths shall be located as close to the corners as practicable. Splices shall be on a 45 degree bevel related to the "thickness" of the seal. The surfaces of finished splices shall be smooth and free of irregularities. Stainless steel retainer bars shall be field-spliced only where shown and machine-finished after splicing.

2.4 TESTS, INSPECTIONS, AND VERIFICATIONS

Tests, inspections, and verifications for materials shall conform to the requirements specified in Section 05055a METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS. The lifting beam shall be tested in the shop with a stoplog to ensure the lifting mechanism and all linkages work correctly prior to delivery to the site.

2.4.1 Testing of Rubber Seals

The fluorocarbon film of rubber seals shall be tested for adhesion bond in accordance with ASTM D 413 using either the machine method or the deadweight method. A 1 inch long piece of seal shall be cut from the end of the seal which has been masked and subjected to tension at an angle approximately 90 degrees to the rubber surface. There shall be no separation between the fluorocarbon film and the rubber when subjected to the following loads:

THICKNESS OF FLUOROCARBON FILM	MACHINE METHOD AT 2 INCHES PER MINUTE	DEADWEIGHT METHOD
0.060 inch	30 pounds per	30 pounds per

inch width

inch width

Failure of any specimen to meet the requirements of the test used will be cause for rejection of the piece from which the test specimen was taken.

2.4.2 Testing of Lifting Beam Mechanism

The lifting beam mechanism shall be tested in the fabrication yard prior to shipping to the job site. The test shall consist of the lifting beam mechanism fully engaging and releasing a stop log.

Amend R0006

2.4.3 Inspection

Shop assembled components shall be inspected for accurate fit and compliance with dimensional tolerances. Sealing, guiding, and connecting surfaces shall be inspected to determine if their planes are true, parallel, and in uniform contact with opposing surfaces.

In the shop, each horizontal rubber seal between each stoplog shall be inspected to ensure that there is continuous contact with the seal plate along its entire length. Each adjacent pair of stoplogs shall be stacked on top of each other and braced laterally during the inspection. No light shall be seen under the sealing bulb of the J-seal along its entire length while a 100-watt light is passed along the entire length of the seal. If light is seen, the seal or sealing surface shall be modified and retested until no light passes under the J-seal.

Each vertical seal at each end of each stoplog shall be surveyed and inspected in the shop to ensure its straightness before contacting the sealing surface. Each vertical seal bulb surface shall vary no more than +/- 1/16 inch from the vertical plane. The seal shall be modified and resurveyed until it is within the tolerance.

2.4.4 Operation Tests

The operation of the shop-assembled stoplogs shall be tested by installing and removing the stoplogs several times by use of the lifting beam. Operation tests shall also include a complete dewatering with the stoplogs in place. Total seepage and leakage at the stoplogs shall be measured and shall not exceed the following flow rate which is a function of the water head:

$$Q = 5 * \text{SQRT}(H)$$

where,

Q = maximum allowable total seepage and leakage at the stoplogs in gallons per minute

H = water head in feet

SQRT = square root function

For a head of 100 feet, Q would be 50 gallons per minute. For a head of 25 feet, Q would be 25 gallons per minute.

PART 3 EXECUTION

3.1 INSTALLATION

Installation shall conform to the requirements specified and in Section 05055a METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS.

3.1.1 Embedded Metals

Corner protection angles, frames, base plates, and other embedded metal items required for complete installation shall be accurately installed to the alignment and grade required to ensure accurate fitting and matching of components. Embedded metals shall be given a primer coat of the required paint on all surfaces prior to installation in concrete forms. Anchors for embedded metals shall be installed as shown. Items requiring two concrete pours for installation shall be attached to the embedded anchors after the initial pour, adjusted to the proper alignment, and concreted in place with the second pour.

3.1.2 Seal Assemblies

Amend R0006

Rubber seal assemblies shall be installed after the embedded metal components have been concreted in place and the gate installation stoplog fabrication, including painting, completed. Rubber seals shall be fastened securely to metal retainers. Before operating the gate(s) stoplogs, a suitable lubricant shall be applied to the rubber seal rubbing plates to protect the rubber.

3.1.3 Painting

3.1.3.1 Painting Stoplogs

Exposed parts of stoplogs and appurtenances except machined surfaces, corrosion-resistant surfaces, surfaces of anchorages embedded in concrete, rubber seals, and other specified surfaces shall be painted as specified in Section 09965A PAINTING: HYDRAULIC STRUCTURES.

3.1.3.2 Painting Lifting Beam

All steel surfaces shall be painted except galvanized corrosion resistant steel and machined surfaces. All painted surfaces shall be cleaned and painted in accordance with specification 09965A PAINTING: HYDRAULIC STRUCTURES.

3.1.4 Lubrications

All items of the Lifting Beam to be lubricated shall be lubricated with Molyube Alloy 777 waterproof grease.

3.2 PROTECTION OF FINISHED WORK

Protection of finished work shall conform to the requirements specified in Section 05055a METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS.

Amend R0006

The Contractor shall protect the stoplogs and lifting beam from damage throughout the duration of the construction contract. The Contractor is responsible for providing the resources, equipment, and labor necessary to deal with any seepage or leakage at the stoplogs during the construction contract.

3.3 ACCEPTANCE TRIAL OPERATION

Amend R0006

After completion of installation, the Contracting Officer will examine the stoplog installation for final acceptance. The individual components of the stoplog installation will be examined first to determine whether or not the workmanship conforms to the specification requirements. The Contractor will be required to place the stoplogs in the guides with the lifting beam a sufficient number of times to demonstrate that the stoplogs fit properly, seat uniformly and the lifting beam mechanism operates smoothly. Also, the Contractor will be required to demonstrate that the total seepage and leakage at the stoplogs does not exceed the maximum allowable. Required repairs or replacements to correct defects, shall be made at no cost to the Government. The trial operation shall be repeated after defects are corrected.

-- End of Section --

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